

Amendments to the Claims

The following listing of claims replaces all prior versions and listings of claims in the above-referenced application:

Claims 1-4 (cancelled)

Claim 5. (currently amended) A method for manipulating, via manipulation equipment residing within an access network to the Internet, the transportation of packets between a source network and IP based destination network plurality of remote clients on one side of the access network and a plurality of corporate intranets on another side of the access network, the method comprising the steps of:

(a) ~~receiving a packet from a source, the received packet being intended for a destination~~ intercepting network based tunnel (NBT) packets transferred between a plurality of remote clients and a plurality of corporate intranets through a plurality of network based tunnels that carry data traffic between a plurality of remote clients and a plurality of corporate intranets, wherein at least two of the remote clients are in communication with different corporate intranets;

(b) parsing ~~the received~~ an intercepted NBT packet that was directed toward a destination on one side of the access network to identify the received packet as a packet that can be manipulated and retrieving an original packet that is encapsulated within the NBT packet;

(c) parsing the original packet; and

(d) wherein the original packet is determined to have been targeted toward the manipulation equipment;

(e*i*) updating a cross-reference table, the cross-reference table ~~enabling~~ containing information that is useful for ~~the reconstruction of~~ reconstruction of a connection to the destination an NBT;

(f*ii*) manipulating the ~~received~~ original packet into a manipulated packet by sending the ~~received~~ original packet to a the manipulation module equipment;

(g*iii*) reconstructing, via the updated cross-reference table, the NBT connection to the destination for the manipulated packet using the cross-reference table from which the NBT packet was intercepted; and

_____ (fiv) transferring the manipulated packet ~~to toward~~ the destination over the reconstructed NBT connection;;

(e) ~~wherein the received packet and the manipulated packet are transferred over network based tunnels~~, wherein the step of ~~updating the cross reference table~~ reconstructing the NBT connection further comprises using a source port number of the received packet coming from the manipulation ~~module~~ equipment.

Claim 6. (currently amended) A method for manipulating, via manipulation equipment residing within an access network to the Internet, the transportation of packets between a plurality of remote clients on one side of the access network and a plurality of corporate intranets on another side of the access network~~source network and IP based destination network~~, the method comprising the steps of:

(a) intercepting network based tunnel (NBT) packets transferred between a plurality of remote clients and a plurality of corporate intranets through a plurality of network based tunnels that carry data traffic between a plurality of remote clients and a plurality of corporate intranets, wherein at least two of the remote clients are in communication with different corporate intranets~~receiving a packet from a source, the received packet being intended for a destination~~;

(b) parsing an intercepted NBT~~the received~~ packet that was directed toward a destination on one side of the access network ~~to identify the received packet as a packet that can be manipulated~~ and retrieving an original packet that is encapsulated within the NBT packet;

_____ (c) parsing the original packet; and

_____ (d) wherein the original packet is determined to have been targeted toward the manipulation equipment:

_____ (ei) updating a cross-reference table, the cross-reference table enabling containing information that is useful for~~the reconstruction of a connection to the destination~~ an NBT;

_____ (dii) manipulating the received original packet into a manipulated packet by sending the received original packet to a ~~the~~ manipulation module ~~equipment~~;

_____ (eiii) reconstructing, via the updated cross-reference table, the NBT connection to the destination for the manipulated packet using the cross reference table ~~from which the NBT packet was intercepted~~; and

_____ (fiv) transferring the manipulated packet ~~to toward~~ the destination over the reconstructed NBT connection;

_____ (e) ~~wherein the received packet and the manipulated packet are transferred over network based tunnels~~, wherein the step of updating the cross-reference table further comprises using the IP address of the manipulation ~~module~~ equipment.

Claim 7. (currently amended) A method for manipulating, via manipulation equipment residing within an access network to the Internet, the transportation of packets between a ~~source network and IP based destination network~~ plurality of remote clients on one side of the access network and a plurality of corporate intranets on another side of the access network, the method comprising the steps of:

(a) intercepting network based tunnel (NBT) packets transferred between a plurality of remote clients and a plurality of corporate intranets through a plurality of network based tunnels that carry data traffic between a plurality of remote clients and a plurality of corporate intranets, wherein at least two of the remote clients are in communication with different corporate intranets ~~receiving a packet from a source, the received packet being intended for a destination~~;

(b) parsing ~~the received~~ an intercepted NBT packet that was directed toward a destination on one side of the access network to identify the received packet as a packet that can be manipulated and retrieving an original packet that is encapsulated within the NBT packet;

_____ (c) parsing the original packet; and

_____ (d) wherein the original packet is determined to have been targeted toward the manipulation equipment;

_____ (ei) updating a cross-reference table, the cross-reference table enabling containing information that is useful for the reconstruction of a connection to the destination an NBT;

_____ (dii) manipulating the received original packet into a manipulated packet by sending the ~~received original~~ packet to a ~~the~~ manipulation ~~module~~ equipment;

_____ (eiii) reconstructing, via the updated cross-reference table, the NBT connection to the destination for the manipulated packet using the cross reference table from which the NBT packet was intercepted; and

_____ (fiv) transferring the manipulated packet ~~to toward~~ the destination, over the reconstructed NBT connection;

(e) wherein the received packet and the manipulated packet are transferred over network-based tunnels, wherein the step of updating the cross-reference table further comprises using the IP address of the destination.

Claim 8. (currently amended) A method for manipulating, via manipulation equipment residing within an access network to the Internet, the transportation of packets between a plurality of remote clients on one side of the access network and a plurality of corporate intranets on another side of the access network~~source network and IP-based destination network~~, the method comprising the steps of:

(a) intercepting network based tunnel (NBT) packets transferred between a plurality of remote clients and a plurality of corporate intranets through a plurality of network based tunnels that carry data traffic between a plurality of remote clients and a plurality of corporate intranets, wherein at least two of the remote clients are in communication with different corporate intranets~~receiving a packet from a source, the received packet being intended for a destination;~~

(b) parsing the received an intercepted NBT packet that was directed toward a destination on one side of the access network to identify the received packet as a packet that can be manipulated and retrieving an original packet that is encapsulated within the NBT packet;

(c) parsing the original packet; and

(d) wherein the original packet is determined to have been targeted toward the manipulation equipment;

(ei) updating a cross-reference table, the cross-reference table enabling containing information that is useful for the reconstruction of a connection to the destination~~an NBT;~~

(dii) manipulating the received original packet into a manipulated packet by sending the received original packet to a the manipulation module~~equipment;~~

(eiii) reconstructing, via the updated cross-reference table, the NBT connection to the destination for the manipulated packet using the cross-reference table~~from which the NBT packet was intercepted; and~~

(fiv) transferring the manipulated packet to toward the destination, over the reconstructed NBT connection;

~~_____ (e) wherein the received packet and the manipulated packet are transferred over network based tunnels, wherein the step of updating the cross-reference table further comprises using the IP address of the source.~~

Claims 9-17. (cancelled)

Claim 18. (currently amended) A method for manipulating the transportation of original packets transported via an access network to the Internet between at least one a plurality of remote clients ~~via an access network and at least one a plurality of~~ IP based private data networks, wherein the original packets are encapsulated in network based tunnel packets, and wherein the manipulation is done at the access network service provider's premises, the method comprising the steps of:

~~transferring~~ intercepting, at the access network service provider's premises, the transportation between the ~~at least one~~ a plurality of remote clients and the ~~at least one~~ a plurality of IP based ~~privet~~ private data networks, wherein at least two of the remote clients are in communication with different IP based private data networks ~~via a manipulation system;~~

parsing a received network based tunnel packet to determine if the received network based tunnel packet can be manipulated its encapsulated original packet is targeted toward a manipulation system;

forwarding the received network based tunnel packet, as is, towards a destination if the received network based tunnel encapsulated original packet cannot be manipulated is not targeted toward the manipulation system;

if the received network based tunnel encapsulated original packet can be manipulated is targeted toward the manipulation system, then:

retrieving the original packet out of the network based tunnel packet;

updating a cross-reference table with parameters that associate the original packet with the received network based tunnel packet, the cross-reference table enabling the reconstruction of a manipulated network based tunnel packet that will be transferred to the destination after the manipulation of the received original packet;

transferring the original packet toward the manipulation system;

manipulating the original ~~received~~ packet into a manipulated original packet;

reconstructing the manipulated network based tunnel packet with the manipulated original received packet; and

transferring the manipulated network based tunnel packet to the destination over network based tunnels;

wherein the step of updating the cross-reference table further comprises using parameters, wherein the parameters that are used for comprise a source port number of packets coming from a the manipulation module system.

Claim 19. (currently amended) A method for manipulating the transportation of original packets transported via an access network to the Internet between at least one a plurality of remote clients ~~via an access network and at least one a plurality of~~ IP based private data networks, wherein the original packets are encapsulated in network based tunnel packets, and wherein the manipulation is done at the access network service provider's premises, the method comprising the steps of:

~~transferring~~ intercepting, at the access network service provider's premises, the transportation between the ~~at least one~~ a plurality of remote clients and the ~~at least one~~ a plurality of IP based ~~privet-private~~ data networks, wherein at least two of the remote clients are in communication with different IP based private data networks ~~via a manipulation system~~;

parsing a received network based tunnel packet to determine if ~~the received network based tunnel packet can be manipulated~~ its encapsulated original packet is not targeted toward the manipulation system;

forwarding the received network based tunnel packet, as is, towards a destination if the ~~received network based tunnel encapsulated original packet cannot be manipulated~~ is not targeted toward a manipulation system;

if the ~~received network based tunnel encapsulated original packet can be manipulated~~ is targeted toward the manipulation system, then:

retrieving the original packet out of the network based tunnel packet;

updating a cross-reference table with parameters that associate the original packet with the received network based tunnel packet, the cross-reference table enabling the reconstruction of a manipulated network based tunnel packet that will be transferred to the destination after the manipulation of the received original packet;

transferring the original packet toward the manipulation system;

manipulating the original ~~received~~ packet into a manipulated original packet;
reconstructing the manipulated network based tunnel packet with the manipulated original received packet; and
transferring the manipulated network based tunnel packet to the destination over network based tunnels;
wherein the step of updating the cross-reference table further comprises using parameters, wherein the parameters that are used for updating the cross-reference table comprise the IP address of ~~a~~ the manipulation module system.

Claim 20. (currently amended) A method for manipulating the transportation of original packets transported via an access network to the Internet between at least one a plurality of remote clients ~~via an access network and at least one a plurality of IP based private data networks~~, wherein the original packets are encapsulated in network based tunnel packets, and wherein the manipulation is done at the access network service provider's premises, the method comprising the steps of:

~~transferring~~ intercepting, at the access network service provider's premises, the transportation between the ~~at least one~~ a plurality remote clients and the ~~at least one~~ a plurality of IP based ~~privet~~ private data networks, wherein at least two of the remote clients are in communication with different IP based private data networks ~~via a manipulation system~~;

parsing a received network based tunnel packet to determine if ~~the received network based tunnel packet can be manipulated~~ its encapsulated original packet is targeted toward a manipulation system;

forwarding the received network based tunnel packet, as is, towards a destination if the ~~received network based tunnel encapsulated original packet cannot be manipulated~~ is not targeted toward the manipulation system;

if the ~~received network based tunnel encapsulated original packet can be manipulated~~ is targeted toward the manipulation system, then:

retrieving the original packet out of the network based tunnel packet;

updating a cross-reference table with parameters that associate the original packet with the received network based tunnel packet, the cross-reference table enabling the reconstruction of a manipulated network based tunnel packet that will be transferred to the destination after the manipulation of the received original packet;

transferring the original packet toward the manipulation system;
manipulating the original ~~received~~ packet into a manipulated original packet;
reconstructing the manipulated network based tunnel packet with the manipulated original received packet; and
transferring the manipulated network based tunnel packet to the destination over network based tunnels;

wherein the step of updating the cross-reference table further comprises using parameters, wherein the parameters that are used for updating the cross-reference table further comprise the IP address of ~~the at least one~~ of the plurality of IP based private data networks.

Claim 21. (currently amended) A method for manipulating the transportation of original packets transported via an access network to the Internet between at least one a plurality of remote clients ~~via an access network and at least one a plurality of~~ IP based private data networks, wherein the original packets are encapsulated in network based tunnel packets, and wherein the manipulation is done at the access network service provider's premises, the method comprising the steps of:

~~transferring~~ intercepting, at the access network service provider's premises, the transportation between the ~~at least one~~ plurality of remote clients and the ~~at least one~~ plurality of IP based ~~privet~~ private data networks, wherein at least two of the remote clients are in communication with different IP based private data networks ~~via a manipulation system;~~

parsing a received network based tunnel packet to determine if the ~~received network based tunnel packet can be manipulated~~ its encapsulated original packet is targeted toward a manipulation system;

forwarding the received network based tunnel packet, as is, towards a destination if the ~~received network based tunnel encapsulated original packet cannot be manipulated~~ is not targeted toward the manipulation system;

if the ~~received network based tunnel encapsulated original~~ packet ~~can be manipulated~~ is targeted toward the manipulation system, then:

retrieving the original packet out of the network based tunnel packet;
updating a cross-reference table with parameters that associate the original packet with the received network based tunnel packet, the cross-reference table enabling the

reconstruction of a manipulated network based tunnel packet that will be transferred to the destination after the manipulation of the received original packet;
transferring the original packet toward the manipulation system;
manipulating the original ~~received~~ packet into a manipulated original packet;
reconstructing the manipulated network based tunnel packet with the manipulated original received packet; and
transferring the manipulated network based tunnel packet to the destination over network based tunnels;
wherein the step of updating the cross-reference table further comprises using parameters, wherein the parameters that are used for updating the cross-reference table further comprise the IP address of ~~the at least one~~ of the plurality of remote clients.

Claims 22-26. (cancelled)

Claim 27. (currently amended) A system for manipulating the transportation of original packets transported between ~~at least one~~ a plurality of remote clients via an access network and ~~at least one~~ a plurality of IP based private data networks, wherein the original packets are encapsulated in network based tunnel packets, and wherein the system is at the access network service provider's premises, the system comprising:

an access gateway interface module that interfaces between the plurality of remote clients and the access network ~~for receiving network based tunnel packets from, and sending network based tunnel packets toward the at least one remote client via an access gateway;~~

a border gateway interface module that interfaces between the access network and ~~for receiving network based tunnel packets from, and sending network based tunnel packets toward the at least one~~ a plurality of IP based private data networks ~~via a border gateway;~~

a manipulation module for manipulating the original packets that are encapsulated in the network based tunnel packets;

a manipulation ~~equipment~~ interface module, interfacing to the access gateway interface module and the border gateway interface module and the manipulation module and that is ~~operable to receive~~ network based tunnel packets from, and sends network based tunnel packets to, the access gateway interface and the border gateway interface modules;

wherein the manipulation equipment interface being further operable to ~~manipulate~~ parse
a received network based tunnel packets, ~~by retrieving~~ retrieve an original packet, ~~sending~~
determine whether the retrieved original packet is targeted toward the manipulation system and,
if the retrieved original packet is determined to have been targeted toward the manipulation
system, send the retrieved original packet to the manipulation module, ~~receiving~~ receive a
manipulated packet that is the result of the manipulation of the original packet, ~~reconstructing~~
reconstruct the network based tunnel packet by installing the manipulated original packet, and
~~forwarding~~ forward the reconstructed network based tunnel packet to either the access gateway
interface or the border gateway interface,

wherein the access gateway interface module maintains a table of ~~all destinations~~ the
plurality of IP based private data networks that are users of the manipulation equipment.

Claim 28 (new) The method of claim 5, wherein determining whether an original packet is targeted toward the manipulation system is based on the destination address of the original packet.

Claim 29 (new) The method of claim 6, wherein determining whether an original packet is targeted toward the manipulation system is based on the destination address of the original packet.

Claim 30 (new) The method of claim 7, wherein determining whether an original packet is targeted toward the manipulation system is based on the destination address of the original packet.

Claim 31 (new) The method of claim 8, wherein determining whether an original packet is targeted toward the manipulation system is based on the destination address of the original packet.

Claim 32 (new) The method of claim 18, wherein determining whether an original packet is targeted toward the manipulation system is based on the destination address of the original packet.

Claim 33 (new) The method of claim 19, wherein determining whether an original packet is targeted toward the manipulation system is based on the destination address of the original packet.

Claim 34 (new) The method of claim 20, wherein determining whether an original packet is targeted toward the manipulation system is based on the destination address of the original packet.

Claim 35 (new) The method of claim 21, wherein determining whether an original packet is targeted toward the manipulation system is based on the destination address of the original packet.